

CLAIMS

What is claimed is

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do: 3/2/103
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1 1. A method of forming an electrical interconnection
2 between a first electrical device and a second electrical
3 device comprising the steps of:

4 providing contacts in an uncompressed state;

5 deforming the contacts to a compressed state;

6 positioning the contacts in a device adapted to hold
7 the contacts between the first and second electrical
8 devices; and

9 activating the contacts to substantially expand the
10 contacts to the uncompressed state, wherein each
11 contact expands to substantially its uncompressed
12 state for establishing the electrical
13 interconnection between the first and second
14 electrical devices.

15 2. A method in accordance with Claim 1 wherein the
16 device for positioning the contacts comprises a land grid
17 array.

18 3. A method in accordance with Claim 1 wherein each
19 contact is composed of a shape memory material.

1 4. A method in accordance with Claim 3 further
2 including the shape memory material being superelastic
3 material.

4 5. A method in accordance with Claim 3 wherein the
5 shape memory material is a nickel titanium alloy.

6 6. A method of forming an electrical interconnection
7 between a first electrical device and a second electrical
8 device comprising the steps of:

9 providing contacts in an uncompressed state and
10 composed of a shape memory material;

11 positioning the contacts in a device adapted to hold
12 the contacts between the first and second electrical
13 devices; and

14 positioning the device with the contacts therein for
15 establishing electrical interconnection between the
16 first electrical device and the second electrical
17 device.

18 7. A method in accordance with Claim 6 wherein the
19 device for positioning the contacts comprises a land grid
20 array.

21 8. A method in accordance with Claim 7 further
22 including a step of providing the contact being made of a
23 shape memory material having superelastic properties.

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1 9. A method in accordance with Claim 6 wherein in the
2 shape memory material is a nickel titanium alloy.

3 10. A method of forming an electrical connection between
4 a first electrical device and a second electrical device
5 comprising the steps of:

6 providing contacts composed of a shape memory
7 material;

8 providing contacts assembled in a compressed state
9 in a device for positioning the contacts;

10 positioning the device for positioning with the
11 contacts in the compressed state between the first
12 and second electrical devices; and

13 activating the contacts to a substantially
14 uncompressed state to make the electrical connection
15 between the first and second electrical devices;

16 wherein the contacts are adapted to accommodate a
17 variation in a gap width between the first and
18 second electrical devices

19 11. A method in accordance with Claim 10 wherein the
20 contacts are assembled into an interposer.

21 12. A method in accordance with Claim 11 wherein the
22 interposer comprises a land grid array.

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1 13. A method in accordance with Claim 10 wherein the
2 shape memory material is a nickel titanium alloy.

3 14. A ^{56, 58}contact for establishing an electrical connection
4 between a first electronic device and a second electronic
5 device, the contact comprising:

6 a flexible conductive body formed in a first
7 position and adapted to be set into a second
8 position and activated into a third position in
9 order to accommodate a variable gap between the
10 first electronic device and the second electronic
11 device for establishing the electrical connection.

12 15. A contact in accordance with Claim 14 wherein the
13 contact may be in compressed state, a second position,
14 and upon heat activation of a shape memory material, the
15 contact translates to a third position, being the
16 uncompressed state.

17 16. A contact in accordance with Claim 14 for use in an
18 interposer wherein the shape memory material is a nickel
19 titanium alloy.

20 17. A contact in accordance with Claim 14 wherein the
21 shape memory material has a martinsitic transition
22 temperature in the range between -20 to 100 degrees C.

23 18. A contact in accordance with Claim 14 further
24 comprising the shape memory material being superelastic.

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material

range

metal

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- 1 19. A contact in accordance with Claim 14 wherein the
2 electrical contact is selected from the contacts having a
3 shape of an E, a C, a Random coil spring, and a helical
4 spring.

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